

ABSTRACT OF THE DISCLOSURE

Virtual-machine-monitor operation and implementation is facilitated by number of easily implemented features and extensions added to the features of a processor architecture. These features, one or more of which are used in various embodiments of the present invention, include a *vmsw* instruction that provides a means for transitioning between virtualization mode and non-virtualization mode without an interruption, a virtualization fault that faults on an attempt by a priority-0 routine in virtualization mode attempting to execute a privileged instruction, and a flexible highest-implemented-address mechanism to partition virtual address space into a virtualization address space and a non-virtualization address space.